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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|----------------------|------------------|
| 10/725,459 | 12/03/2003 | Masaki Shiraishi | 0229-0785P | 4041 |
| 2292 | 7590 | 12/10/2004 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH | | | PRETLOW, DEMETRIUS R | |
| PO BOX 747 | | | | |
| FALLS CHURCH, VA 22040-0747 | | | ART UNIT | PAPER NUMBER |
| | | | 2863 | |

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/725,459 | SHIRAISHI, MASAKI |
| | Examiner | Art Unit |
| | Demetrius R. Pretlow | 2863 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 03 December 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 9-15 is/are rejected.
 7) Claim(s) 1-8 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 03 December 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/28/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an applications filed in Japan on December 12, 2002 and May 2, 2003. It is noted, however, that applicant has not filed certified copies of the JP 2002-321416 and JP 2003-127337 applications as required by 35 U.S.C. 119(b).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the memory and the processor must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 and claim 2 are objected to because of the following informalities:

In claim 1, line 5, obtaining data on ***functionality between the force exerted on a vehicle wheel and a physical parameter*** of the vehicle wheel at least one predetermined measuring position; The examiner can not clearly ascertain as to what is meant by functionality and no clear definition is given in the specification.

In claim 6, line 8-9, a memory on which data on ***functionality between the force and physical parameter are stored*** read from said at least one sensor and the ***stored data on functionality***, works out the force and outputs data on the force. The examiner can not clearly ascertain as to what is meant by functionality and no clear definition is given in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyazaki (US 6,651,518 B1). Miyazaki teach at least one sensor for a physical parameter of a vehicle wheel. Note Miyazaki column 6, lines 4-11. Miyazaki teach a signal processing circuit for processing a detection signal from said stress detection sensor which is directly related to the force . Note claim 1, lines 1-7, and column 11, lines 1-7, and claim 9 which, is interpreted as using data on the physical parameter read from said at least one sensor and the stored data on functionality, works out the force and outputs data on the force. Miyasaki does not explicitly teach a memory on which data on functionality between the force and physical parameter are stored, however Miyazaki teach a signal processing circuit for processing a detection signal from each stress sensor to determine strain. Note claim 1, lines 5-7. Which suggests that a memory is used or in fact would be inherent to the transmitting of data from the sensors to the signal processing unit.

In reference to claim 14, Miyazaki does not explicitly teach the data stored on the memory include data on functionality between the physical parameter and at least one of vertical force, lateral force, longitudinal force and self-aligning torque, however Miyazaki does teach a signal processing circuit for processing a detection signal from each stress sensor to determine strain and also vertical drag (force). Note claim 1, lines 5-7 and column 7, lines 26-27. Which suggests that a memory is used or in fact would be inherent to the transmitting of data from the sensors to the signal processing unit.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki in view of Kuchler et al. (US 5,894094). Miyazaki et al. does not teach said physical parameter is the magnitude of radial strain on a radius part of the vehicle wheel. Kuchler et al. teach strain gauges on the radial part of the tires therefore the magnitude or the amount of the strain is inherent to the strain gauges. Note Figure 1.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Miyazaki to include the teaching of Kuchhler et al. because it would allow decoupling the individual force and the torque components from one another and to sense them separately. Note Kuchler et al. column 1, lines 57-59.

In reference to claim 11, Miyazaki does not teach said at least one sensor is one sensor fixed to a radius part of the vehicle wheel .

Kuchler et al. teach said at least one sensor is one sensor (16) fixed to a radius part of the vehicle wheel. Note Figure1.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Miyazaki to include the teaching of Kuchhler et al. because it would allow decoupling the individual force and the torque

components from one another and to sense them separately. Note Kuchler et al. column 1, lines 57-59.

In reference to claim 12, Miyazaki does not teach said at least one sensor is a plurality of sensors arranged around the rotational axis of the vehicle wheel and fixed to a radius part of the vehicle wheel.

Kuchler et al. teach said at least one sensor is a plurality of sensors arranged around the rotational axis of the vehicle wheel and fixed to a radius part of the vehicle wheel. Note column 1, lines 52-53 and Figure1.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Miyazaki to include the teaching of Kuchhler et al. because it would allow decoupling the individual force and the torque components from one another and to sense them separately. Note Kuchler et al. column 1, lines 57-59.

In reference to claim 13, Miyazaki et al. does not teach device to locate said at least one sensor in order to measure the physical parameter when the sensor is at a predetermined measuring position. Kuchler et al. teach device to locate said at least one sensor in order to measure the physical parameter when the sensor is at a predetermined measuring position. Note column 2, lines 19-33.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Miyazaki to include the teaching of Kuchhler et al. because it would allow indication of the position of the wheel . Note claim 2, lines 28-30.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki in view of Nishizaki et al. (2002/0030407) Miyazaki does not teach the device to determine a breaking force during braking, a braking mechanism for the vehicle wheel, and a controller for controlling the braking mechanism so that the breaking force becomes maximum during braking.

Nishizaki et al. teach the device to determine a breaking force during braking Note page 2, paragraph 26, lines 1-6. A braking mechanism (54) for the vehicle wheel. Note paragraph 25, lines 3-5, and a controller (60) for controlling the braking mechanism so that the breaking force becomes maximum during braking Note paragraph 8, lines 5-12 .

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Miyazaki to include the teaching of Nishizaki et al. because it would allow control circuit to stabilize the behavior of the motor vehicle by controlling the operation of a steering mechanism of the motor vehicle. Note paragraph 8, lines 3-5.

Allowable Subject Matter

Claims 1-8 appears to be in favorable condition if objection is overcome.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Demetrius R. Pretlow whose telephone number is (703) 272-2278. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Demetrius R. Pretlow

Demetrius R. Pretlow

12/04/04

Patent Examiner

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